

located at the center of the hearth and the colder gases are drained to it by sloping channels passing in this way *underneath* the plates being heated. As the lower surface of the plates is exposed to the hot gases, their heating is rapid and uniform.

Reiner, an engineer, conceived the plan of annealing or heating plates by placing them in the furnace on their edges, and constructed the furnace shown in Fig. 106. This furnace did not give satisfactory results because the hot gases circulated upon

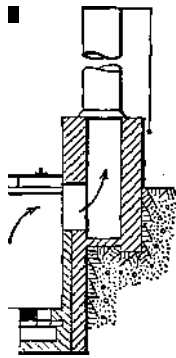


FIG. 106.

the updraft principle, and for this reason the annealing of the plates was not uniform. The idea was therefore abandoned.

The idea of Reiner may be conveniently utilized by reversing the direction of flow of the gases to the downdraft method and building the furnace with a solid roof, (*> placing the working doors in the side wall.

XV. ORDINARY REVERBERATORY FURNACES FOR REHEATING

(With bar grates')

In coal-fired furnaces with the ordinary bar grate a temperature of 1350° may be obtained in the firebox with a regulated air supply. An air supply of 1.50 to 1.75 times the amount theoretically required, according to the quality of the fuel used, will result in such a drop of the temperature of the hot gases that it becomes

^{C1)} *Note by French translator*.—In the plate annealing furnace, as designed by Reiner, the plates were charged into the furnace through its roof and not by doors in the side walls.